

## Machine translation JP2000512463

---

(19)**Publication country**Japan Patent Office (JP)  
 (12)**Kind of official gazette**Published Japanese translations of PCT international publication for patent applications (A)  
 (11)**Official announcement number** \*\* table 2000-512463 (P2000-512463A)  
 (43)**Announcement date** Heisei 12(2000) September 19 (2000.9.19)  
 (54)**Title of the Invention**Composition of a video on demand and a direct broadcast satellite for interactive services  
 (51)**The 7th edition of International Patent Classification**

H04N 7/173 630

7/20 630

**FI**

H04N 7/173 630

7/20 630

**Request for Examination**Unrequested

**Preliminary examination claim** Tamotsu

**Number of Pages**28

(21)**Application number**Japanese Patent Application No. 10-502011

(86)(22)**Filing date**Heisei 9(1997) June 25 (1997.6.25)

(85)**Translation Date of submission** Heisei 10(1998) December 25 (1998.12.25)

(86)**International application number** PCT/CA97/00444

(87)**International-Publication number** WO97/50250

(87)**International-Publication day** Heisei 9(1997) December 31 (1997.12.31)

(31)**Application number of the priority**60/020,405

(32)**Priority date**Heisei 8(1996) June 25 (1996.6.25)

(33)**Country Declaring Priority**U.S. (US)

(81)**Designated state** EP (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OA (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG), AP (GH, KE, LS, MW, SD, SZ, UG, ZW), EA (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN

(71)**Applicant**

**Name**Wistar Tele Communications Yne condominium lei TEDDO

**Address**Canada Ontario Kay 1-G 3 Jay 4 and Ottawa bay leaf Avenue Waist 427 and sweet 1410

(72)**Inventor(s)**

**Name**Rothko, ORESUTO

**Address**Canada Ontario Kay 2 h 7 See 8 and NEPIAN ARYU pretty load 52

(72)**Inventor(s)**

**Name**ZURIANI, Michael

**Address**Canada Ontario Kay 1 Jay 8 W 9 and Ottawa Massey Lane 4786

(72)**Inventor(s)**

**Name**BUREITO hoped , Robert, W.

**Address**Canada Ontario Kay 1 S 2 S 2 and Ottawa mel GANDO Avenue 36

(74)**Attorney**

**Patent Attorney**

**Name**Isshiki Kensuke (and 2 others)

---

(57)**Abstract**

The antenna which receives two or more programs of the gestalt of the signal coded from the satellite system, The ground base office which is connected to the decoder which decrypts a signal, and said decoder, and has a mass storage device for memorizing some of two or more programs at least and which provides a near video on demand at least. The processor programmed appropriately determines any of two or more programs should be memorized to a mass storage device based on a predetermined standard.

---

### Claim(s)

A system which provides a near video on demand at least, comprising:

1. Multimedia server means to provide source of program data.

A satellite communication system which broadcasts said program data to two or more users.

It has at least one receiving station, and is said at least one receiving station, An antenna means

which receives two or more programs with a gestalt of a signal coded from said satellite system

A decoder which decrypts said signal, it is connected to said decoder and A bulk store means for **of two or more of said programs** memorizing some at least, A processor means by which it was programmed for determining any of two or more of said programs are memorized for said bulk store means based on a predetermined standard that a user was selected.

2. System given in the 1st paragraph of Claim that conveys upper data of narrow-band and provides return path from said at least one receiving station to said multimedia server and that has ground link from said multimedia server means to at least one receiving station.

3. System given in the 2nd paragraph of Claim in which said ground link is ISDN link.

4. System given in the 1st paragraph of Claim or the 2nd paragraph in which said decoder is gestalt of TV set top multi media decoder.

5. System of any one description of the 1st paragraph of Claim thru/or the 4th paragraph in which said at least one receiving unit contains DBS receiver.

6. System of any one description of the 1st paragraph of Claim thru/or the 5th paragraph including personal agent who determines program said programmed processor means should be remembered to be by bulk memory.

7. System given in the 6th paragraph of Claim programmed by user's liking used in order to determine which program said personal agent should memorize.

8. System given in any 1 paragraph of the 1st paragraph of Claim thru/or the 7th paragraph which has means to compress said program data in order to broadcast with gestalt compressed by said at least one receiving station.

9. System given in the 2nd paragraph of Claim by which said receiving station has bus connected to network terminal adopter, and said bus is connected to computer and said programmed processor means.

10. A system given in the 9th paragraph of Claim by which said bus is connected to said decoder so that said computer can receive bidirectional multimedia data via said satellite communication system.

A method characterized by comprising the following of providing a near video on demand at least.

11. A stage of providing a program data source.

A stage which broadcasts program data to two or more users via a satellite communication system.

A stage of receiving said data in a receiving station with a gestalt of a signal coded from a satellite system.

A stage which decrypts said signal, It is the stage of two or more of said programs of memorizing some at least, to a mass storage device of said receiving station, A stage of determining any of two or more of said programs should be memorized to said mass storage device based on a predetermined standard that a user was selected

12. A method given in the 11th paragraph of Claim that a ground link from said multimedia server means to said at least one receiving station conveys upper data of a narrow-band, and provides a return path from said at least one receiving station to said multimedia server.

13. A method given in the 11th paragraph of Claim or the 12th paragraph which has a stage

compressed in order to transmit to said receiving station with a gestalt which had said program data for broadcast compressed.

14. A method of any one description from the 11th paragraph of Claim to the 13th paragraph of having a stage which transmits bidirectional multimedia data via said satellite communication system.

A receiving station which receives a near video on demand at least, comprising:

15. An antenna means which receives two or more programs with a gestalt of a signal coded from a satellite system.

A decoder which decrypts said signal.

It is connected to said decoder and is a bulk store means for **of two or more of said blog rum** memorizing some at least.

A programmed processor means which any of two or more programs should be memorized for said bulk store means determines based on a predetermined standard that a user was selected.

16. A receiving station given in the 15th paragraph of Claim that has a personal agent who determines a program which should memorize said programmed processor means to a bulk memory.

### Detailed Description of the Invention

Composition of a video on demand and the direct broadcast satellite for interactive services More particularly, this invention relates to the system and method of providing individual-oriented a near video on demand and an interactive communications service about a near video on demand (VOD).

Usually, direct broadcast satellite art which is considered is suitable for distributing many video channels over an extensive geographical region on a 1 point-pair multipoint basis. It is the media of one way which it is small and is fundamentally broadcast with a geostationary satellite at each of low cost to the home receiver in which an address is possible. It is enciphered and a signal can be decoded in a subscription receiver. The capability of a required satellite is saved by applying digital video compression (DVC) to a video signal.

A home receiver has an outdoor unit which consists of an antenna and a low noise down converter, and an indoor unit. An indoor unit has the control unit, the Interface Division control unit accessible with portable remote control, and DVC decoder for the demodulator which enables selection of a channel and a demultiplexer, address decode, and decoding control. With this Interface Division control unit, a user chooses a channel, schedule information is displayed, a user control function like the channel lockout by parental control can be performed, and the message sent to a specific receiver can be displayed. It may have an accounting function, when used for the Interface Division control unit permitting pay-per-view (Pay-per-View) from the credit account which was established inside and which can be pulled down.

Bidirectional multimedia and VOD service are not usually provided depending on a DBS system. These media are one way, and although it is effective in extensive distribution in cost, it is because it is not effective in individual service.

One purpose of this invention is to solve this problem.

According to this invention, it is offered by the system which can provide a near video on demand at least, and the system, A multimedia server means to provide a program data source, and the satellite communication system which sends the program data to two or more users, The antenna means which receives two or more programs with the gestalt of the signal coded from said satellite system, The decoder which decrypts said signal, and at least one receiving station which is connected to said decoder and has a bulk store means for **of two or more of said programs** memorizing some at least, It has the programmed processor means which which **of two or more of said programs** is memorized for said bulk store means based on the beforehand selected standard by a user determines.

Both direct broadcast satellite (DBS) art and terrestrial integrated services digital network (ISDN) equipment (or other same terrestrial narrow-band data-communications equipment) are used for this invention, and it is bidirectional multimedia and imitation video on demand (VOD).

The system configuration which can provide service for domestic consumers is provided. in the infrastructure improvement with a part of each fundamental service provider which is available respectively as for the art of these both sides, or is becoming available -- almost -- or it is not necessary to carry out further investment at all The additional portion used as the key to this composition by building advanced data storage equipment into domestic apparatus, While making selection of the data which should make the video information distributed by DBS memorize with personal agent (Personal Agent) software, and should memorize it assist, The user of "on demand one" or a NVOD base is also made to assist providing this data.

\*\*\*\* which makes bidirectional VOD service emulate using distribution of a satellite by the thing which was made to unify terrestrial data-communications equipment and advanced data storage equipment, such as DBS and ISDN, and which combine is possible. DBS provides the video of the narrow-band stored by the broadband link to the home for broadcast, or a user's demand accessible. Although ISDN provides a home with a narrow-band link, it is a 2-way and it suitable for the bidirectional service which can give an address separately. If it combines with the video information downloaded and memorized, this can provide the perfect bidirectional multimedia environment to a home.

Personal agent software assists selection of the broadcast video which should be memorized by a user's demand on the basis of the profile which shows a user's interest which a user provides again, and digital information data. Memorizing, in order that a user may use it later in many cases will choose desirable data beforehand. It means that personal agent software automates this method by memorizing all the data corresponding to the profile which shows a user's interest, a user reviews or looks at this data later, and it determines whether to hold further or discard. Specific programming about interest is held automatically in the predetermined period before the deletion to which the user pointed. This intelligent agent's use combined with the parts of other systems provides the NVOD environment effectively.

All the agents have a repertory incorporating a rule, and opt for operation by it. The intelligent agent is having the learning function incorporated. In the trial which improves the quality of service, the intelligent agent can update the rule by providing a learning function based on the result of a pre- determination. The agent operates as an individual substitute and performs the task searched for by profits since it is individual profits.

Personal agent software explained here can be performed with either of many methods. Such an agent looks for broadcast data available about the data which is an object of interest for an individual. The data with this interest is defined by the individual, and this agent can learn and can improve a search by feedback about the broadcast searched before.

or **first, / that an agent limits search before performing a search** -- or the gestalt of the parameter or restriction to derive -- being fond (preference) -- it has. A parameter may contain subject or the theme, a director, a producer, a star, evaluation, a company, or a title. Restriction may include the evaluation issued based on the access restriction to the person below a certain age, and it can restrict the broadcast to which it can view and listen by company, producer, director, an actor, etc., including the filter which disregards the broadcast to which it can be viewed and listened, and which covers a certain data and covers a certain standard. This agent is faithful to the provided liking. as another example, when an agent can learn, according to the outline of broadcast before grade attachment \*\*\*\*, a retrieval parameter is changed by an individual. Each broadcast is provided with the header information containing sufficient amount of information in one working example.

The rule which verifies by this the data in which a personal agent is broadcast, and chooses the program to memorize is applicable.

Such working example is restricted to some methods. When a program is continued for a long time than a single time slot and it memorizes, it prevents memorizing a next still more interesting program. The agent cannot build a schedule beforehand but an individual can re-verify this. Finally, the agent always has to supervise all the broadcasting signals, and has to communicate all the determination in an individual storage.

In other working example, header information is searched by the personal agent from at least one place, in order to memorize the whole or a part in the center at least, to verify a broadcasting schedule, to apply a rule and to build the schedule of a program store. It continues over predetermined time and such a schedule is determined by the experience before the agent who

reconstructs a schedule. In order that a personal agent may guarantee that the memorized program is desirable, change of a broadcasting schedule is told.

A personal agent is told a favorite change of the user of the gestalt of change to a parameter or restriction. This change becomes effective in a certain prospective time, an agent forms the plan of change which takes place then in this case, or immediately, those change reaches, was gone back in the past, and becomes effective. In the case of the latter, an agent verifies the present program store schedule, in order to apply a new parameter and restriction. If there is change of a different parameter and the dignity of restriction, an agent will contact in the center at least, will verify a broadcasting schedule again, and will generate the schedule of memory of a program again. If time allows, an individual is provided with a program store schedule so that it may verify before execution. By such verification, the individual can adjust the broadcast with which time laps and can verify the available program with which the parameter set by an individual's liking and restriction agree. Such verification provides an agent with worthy information, when it can be learned.

The stage where this invention provides the sauce of program data, and the stage which broadcasts program data to two or more users with a satellite communication system, The stage of receiving said data in a receiving station with the gestalt of the signal coded from the satellite system, To the stage which decodes said signal, and the mass storage device of said receiving station, the stage of two or more of said programs of memorizing some at least, Based on the predetermined standard that the user was selected, the method of providing a near video on demand at least of having the stage of determining which **of two or more programs** is memorized to said mass storage device is provided.

With reference to an accompanying drawing only as an example, it explains still in detail about this invention.

Drawing 1 is a block diagram of the NVD system by this invention.

Drawing 2 shows one working example of a personal agent used with a system.

In drawing 1, the home 1 communicates with the local central office 3 connected to the remote central office 4 via the two-way-types-oriented ISDN2B+D link 2. A remote central office is connected to multimedia service ploy BAIDA 6 through the narrow-band link 5 which conveys a multimedia signal. The service provider 6 is connected to the satellite station office 8 by the broadband video link 7. Through the uplink 9, the satellite station office 8 sends a signal to the broadcasting satellite 10 in order to transmit to the domestic antenna 11.

The antenna 11 is connected to the conventional DBS receiver 12 relevant to the ISDN decoder 13 and the program storage 14.

It may be connected to an ISDN link, and may be connected to the ISDN set top decoder 13, and the computer 17 and the terminal adopter 18 via the bus 16, and the loop terminating set 15 may be connected to an analog device (not shown). The program storage 14 is connected to the computer 17 and the television set 19. The processor 25 relevant to the DBS receiver 12 is programmed to be able to determine the data memorized by the standard which the user chose. The processor 25 explains this still in detail with reference to drawing 2 including personal agent software for this purpose.

The local central office 3 has the server switch 20 provided with the ISDN line card connected to the ISDN link 2. The local server switch 20 is connected to the ISDN switch 23 of the remote central office 4.

The multimedia service provider 6 has many multimedia servers 24 with which each memorizes the multimedia data for distribution to a customer. The usual multimedia service Network TV, a home banking, A request to print out files of specialty TV, financial service, pay TV, a theater, a restaurant, etc., etc., A pay-per-view movie, a request to print out files of a travel, a pay-per-view special event, Community service, home shopping, health service, an educational course, A service directory, a training course, library search, a "How-to" program, a computer network, a hobby, an E-mail, a game, an electronic bulletin board, an audio story, a book, a facsimile, music, telecommuting, a video phone, and an information service are included.

The service provider 6 uses the both sides of DBS and ground data transmission technology like ISDN art, in order to provide extensive multimedia service for those customers. The multimedia server 24 is used in order to start this service from here. Although the video signal of a broadband is transmitted via a DBS system including the satellite 10, the narrow band signal which is within

the limits of the performance of ISDN is transmitted using the ISDN network equipment 20 and 23. Some services have the both sides of a broadband signal and a narrow band signal, and use the combination or the similar narrow-band data transmission art of DBS and ISDN.

The central offices 3 and 4 and the related ISDN link of a 2-way transmit the data of a narrow-band unsuitable for use of the satellite link of a broadband like accounting information while they provide the multimedia server 24 with the return path of a narrow-band and make bidirection possible.

The video to which the DBS system top was transmitted can be recorded by the program storage 14 which could see in real time by the conventional method with the television set 19, or was included in the DBS receiver or the setup multi media decoder, and can also be seen later. The video data memorized by the type of service is demanded as displaying on direct TV19 or the computer display 17 by the user. In this mode, since the video data is memorized, the user can search in order to choose the portion which a user expects to see in the frame unit advanced to **halt / the back or ahead** to see, or to try to repeat. When a video data is a part of bidirectional service containing the data transmitted on the ground, the display of a video portion may be controlled from a multimedia server via a terrestrial line.

Program storage may connect with the DBS receiver 12 which illustrated, or may be a stand-alone type device. In desirable working example, in a home product, an indoor unit, and a DBS receiver's multi media decoder and program storage are packed as one set top unit, and are provided with an infrared remote control device. The user's unit of the consumers of a large-sized residence has TV and a stereo sound system.

All the devices inside a residence are marketed as a stand-alone type now.

Or it is easily applicable by a person skilled in the art from the existing device.

The set top multi media decoder 13 belongs to the latter category, and can be most easily realized by using DBS or a cable TV set top device. This invention unifies the set top unit function of the multi media decoder provided with a DBS receiver and mass data storage equipment, and in order to emulate bidirectional VOD and other multimedia services, in suitable software, it includes all the required functions. Personal agent software is included in modification of set top box software.

Various data storage equipment can apply to the program storage 14. These contain magnetic tape, a magnetic disk, a magneto-optical disc, and an optical storage. Capacity which memorizes the DVC video information of 4 hours is made into the minimum required capacity, and it is preferred that it is 10 thru/or 20 hours preferably. Virtual instant access for less than several seconds and the performance which records information by one the speed of 10 thru/or 20 times of real time are included in a desirable thing by the storing technology applied to others. This makes possible an option called quick download of information with record of real time. The combination of storing technology is applied in order to attain desired performance in combination. For example, magnetic tape provides big capacity, and is used in record-keeping mode, and a magnetic disk performs quick access by transmitting the information that it is desirable for use of the present from a tape to a disk.

Optical-data-storage art makes possible hundreds or mass and as quick random access as thousands of G bytes, and a very high-speed input-and-output transfer rate. They will be marketed within the following about ten years, although they are not marketed for the moment.

It depends for the device of the type needed by the multimedia service provider 6 on the type of the service provided. For example, pay-per-view movie service or other video information services need the transmitting equipment to a tape or video disk storage, and a DBS uplink terminal.

According to this invention, the request of a specific movie is received via terrestrial data equipment, and this is used for providing for the user who requested the reply information relevant to the transmitting schedule of the requested movie.

Bidirectional education or training service uses a video server, and the computer for operation of multimedia graphics, a text, audio information, and the course in both directions is added.

Although it becomes a repetition, all are transmitted to a user via terrestrial data equipment except video information.

Multimedia service of a home banking, financial service, an E-mail, request-to-print-out-files service, etc. may need only the terrestrial data part of the architecture for connection which does not have related video information and is described here to a user. The fee collection relevant to the arbitrary services provided requires only data equipment.

What is necessary is just to perform formatting of multimedia data using the maximum transmission capacity of a terrestrial data link. When maximum throughput 144 kb/s ISDN basic speed (2B+D) is assumed, use of buffering art, For example, like an audio or a text, when the time average about the data is less than said speed, transmission of the data exceeding the aforementioned basic speed is enabled between short time.

Therefore, the full-motion display which uses some of short video clips over 144 kb/s or screens can also be transmitted via ISDN, and, probably, the transmission through DBS is not needed.

When this constitutes multimedia service, it provides pliability further.

The terrestrial data part of the architecture is provided as service of a standard like ISDN provided by the telecommunications company. It contains a switch provided with the ISDN software of the central office of a telecommunications company, the ISDN line card which provides service for each member, and the interconnection of the ISDN service between central and an office. When the member's central office is not provided with ISDN software and hardware, the remote unit 23 connected to the ISDN switch in the distant place may be used as shown in drawing 1. The existing twisted pair copper loop 2 which can distribute ISDN basic speed service (2B+D) to a member is suitable connection. A dedicated line may be needed between a multimedia service provider and an ISDN network.

The DBS portion of the architecture explained in this Description usually relates to DBS service. Usually, it has the satellite 10 of the high power which transmits a signal receivable with the small antennas with a diameter following 1 meter. The one or more uplink earth stations 8 are used in order to supply electric power to a satellite (feed). In order that DVC (digital video compression) may compress a video signal, may reduce the electric power of a spectrum and a satellite and may use the capability of a satellite more effectively, it is used in an uplink earth station. About this purpose, the uplink station had the compressor unit 26 and the home 1 is provided with the decompressure 27. Suitable video compression software can be used. In Ku band frequency, although direct broadcasting by satellite is performed by either the broadcasting satellite service (BSS) zone or a fixed satellite-services (FSS) zone, it can also usually be performed in other satellite-services frequency bands. When not performing in particular by a BSS zone, direct broadcasting by satellite is explained as home direct connection (direct-to-home) (DTH) satellite services in many cases.

One modification from the usual DBS system possible at the architecture explained in this Description is recording that signal, in order to transmit the compressed video quicker than the viewing-and-listening speed (real time viewing rate) of real time and to view and listen later. Therefore, the movie of 2 hours can usually be sent in several minutes. Some of functions of the DBS system in the architecture explained in this Description can be reserved for such a high-speed download service.

The personal agent performed by the processor 25 is shown in drawing 2 still in detail. As for the routine 50, a personal agent loads the new rule which manages operation of a rule parameter or a system from the personal computer 17 including the routine 50. What is necessary is just to input these into PC17 by a user. Similarly, the routine 51 loads the new profile standard relevant to TAIBU of the program a profile standard, a program specific for example, or a user expects access. The routine 52 compares the standard and rule which were received from the routines 50 and 51 with the program header relevant to the received data. These can be extracted from the broadcast data which uses the intelligent software which is added by the broadcasting station (broadcaster) or reacts to the contents of the program.

Answering a front routine, a personal agent saves the program which agrees on a profile standard in 54, and generates the list of memory contents by the routine 54. The routine 55 displays the list of the contents according to a request.

The block 56 expresses the learning mode with which an agent enables it to study the type of the program in which a user gets interested based on the past experience. The routine 57 receives the feedback relevant to the saved program, and sends this information to the routine 58. The routine 58 sends it to the routine 50, and the routine 50 achieves the function which loads a rule parameter.

By combining mass preservation of data, DBS, and terrestrial data transmission art, and using all the three components combining a personal agent by an innovative technique, VOD or NVOD service can be realized in false inside a dwelling, without investing further to network infrastructure

improvement (emulate). Therefore, this invention enables postponement or evasion of the investment of billions of dols in an optical fiber or a bidirectional coaxial cable plant.

---

### Drawing 1

For drawings please refer to the original document.

### Drawing 2

For drawings please refer to the original document.

---

For drawings please refer to the original document.

---

**Written Amendment** The 8 1st paragraph of Patent Law Article 184

**Filing date** Heisel 10(1998) July 28 (1998.7.28)

### **Proposed Amendment**

Composition of a video on demand and the direct broadcast satellite for interactive services  
This invention relates to a near video on demand (VOD), and, more particularly, is an individual.  
the system which provides the near video on demand and interactive communications service to turn

It is related with the method of calling.

usually, direct broadcast satellite art which is considered is extensive on a 1 point-pair multipoint basis -- geographical

It is suitable for distributing many video channels over a field. It is a basis.

The home carrier in which it is small by a geostationary satellite and the address of low cost is separately possible in book

They are the media of one way broadcast to \*\*\*\*. It is enciphered and a signal is a subscription receiver smell.

It can \*\*\*\*\*. It is \*\*\*\*\* to a video signal about digital video compression (DVC).

\*\*\*\*\* is saving the capability of a required satellite.

Outdoor YUNITSU which a home receiver becomes from an antenna and a low noise down converter

It has TO and an indoor unit. An indoor unit is \*\* possible about selection of a channel.

For \*\* demodulator and a demultiplexer, address decode, and decoding control

A control unit, Interface Division accessible with portable remote control

It has a control unit and a DVC decoder. This Interface Division control unit

It is alike, and more, a user chooses a channel, schedule information is displayed, and it is the pair rental.

A user control function like the channel lockout by a RUKON trawl

It can perform and the message sent to a specific receiver can be displayed. moreover

The prepayment account which the Interface Division control unit can pull **which was established inside** down

It charges, when used for permitting \*\* pay-per-view (Pay-per-View).

It may have a function. .

the typical example of such a system -- the **PCT application** -- WO-A-9504431



It is indicated in the item. This patent application memorizes broadcast data locally in a remote place.

The satellite broadcasting system which can do things is indicated.

Bidirectional multimedia and VOD service are usually DBS systems.

It does not \*\*\*\*\*. Because, these media are one way and it is Kos in extensive distribution.

Although it is effective in TO, it is because it is not effective in individual service.

One purpose of this invention is to solve this problem.

According to this invention, a near video on demand can be provided at least.

MARUCHIME which is presented with a system and the system provides with a program data source

The Dear server means and satellite communication SIs who sends the program data to two or more users

It is \*\*\*\*\* about two or more programs at the gestalt of the signal coded from Tem and a satellite system.

It is connected to a \*\* antenna means, the decoder which decrypts said signal, and said decoder.

The bulk store means for **of two or more of said programs** memorizing some at least

It has at least one receiving station which has \*\*. Said each receiving station is to a user.

It is based on the \*\*\*\*\* (ed) predetermined standard and is said bulk store about which of two or more programs.

It is **the programmed processor means which whether it memorizes to a device determines, and** \*\* about said satellite.

The day which is carried out and is reproduced from said mass storage device or said multimedia server means

Since bidirection service is provided for a user in the control station which chooses TA, and said receiving station

Return phosphorus of a narrow-band which is alike and connects said control station to said multimedia server means

It has KU.

This inventions are direct broadcast satellite (DBS) art and a terrestrial integrated services digital network.

(ISDN) It is \*\* in both equipment (or other same terrestrial narrow-band data-communications equipment).

Business is carried out and it is bidirectional multimedia and imitation video on demand (VOD).

The system configuration which can provide service for domestic consumers is provided. This

It is available respectively, or is becoming available, and both art is each SA.

In some - screw providers' fundamental infrastructure improvement, they are most or a pine.

It is not necessary to carry out further investment to cook. The additional portion used as the key to this composition is a domestic opportunity.

Video \*\* distributed by DBS by building advanced data storage equipment into a vessel

News is made to memorize with personal agent (Personal Agent) software.

While making selection of the data which should be memorized assist, they are "on demand one" or N.

The user of a VOD base is also made to assist providing this data.

It is 1 about terrestrial data-communications equipment and advanced data storage equipment, such as DBS and ISDN.

By the thing which was done for embodying and which combine, distribution of a satellite is used for bidirectional VOD service.

It is possible to carry out \*\* emulation. DBS -- the home for broadcast -- a broadband

Video of the narrow-band stored by the link or a user's demand accessible

It provides. It is a 2-way although ISDN provides a home with a narrow-band link,

It is suitable for the bidirectional service which can give an address separately. Down

Completeness **as opposed to a home in this** when it is loaded and combines with the memorized video information

Bidirectional multimedia environment can be provided.

A user again personal agent software by a user's demand.

Broadcast video which should be memorized on the basis of the profile which shows the interest of the user who provides

And selection of digital information data is assisted. In many cases, he is a user, Memorizing will choose desirable data beforehand, in order to use it later.

.In the profile personal agent software indicates a user's interest to be

It is mind about automating this method by memorizing all the agreeing data.

A figure is carried out, and a user holds it further later, reviewing or seeing this data.

It determines whether to \*\*\*\*\*. Specific programming about interest is \*\* automatically.

\*\* is held in the predetermined period before the deletion to which the user pointed. Other systems

This intelligent agent's use combined with parts is a NVOD ring.

A boundary is provided effectively.

All the agents have a repertory incorporating a rule, and are it.

\*\*\*\*\* is determined.

\*\* which guarantees that a personal agent's memorized program is desirable

Change of a broadcasting schedule is told to \*\*.

You **as opposed to a parameter or restriction in a personal agent** of the gestalt of change

Change of the liking of THE is told. This change becomes effective in a certain prospective time, and is \*\*.

An agent forms the plan of change which takes place then, or a \*\* case is them.

Immediately, change reaches, was gone back in the past, and becomes effective. In the case of the latter, it is an age.

The present program store in order that ENTO may apply a new parameter and restriction

A schedule is verified. If there is change of a different parameter and the dignity of restriction,

An agent contacts in the center at least, verifies a broadcasting schedule again, and is a pro.

The schedule of memory of a gram is generated again. It will be before execution if time allows.

An individual is provided with a program store schedule so that it is alike and may verify. such

The individual can adjust with verification the broadcast with which time laps, and it is an individual's liking.

\*\* which verifies the available program with which the set parameter and restriction agree

It can \*\*. Such verification is E when it can be learned.

The information which has value in - JIENTO is provided.

With the stage where this invention provides a program data source further, and a satellite communication system

from the stage which broadcasts program data to two or more users, and a satellite system -- coding

The stage of receiving said data with the gestalt of a \*\*\*\* signal in a receiving station, and said signal are decrypted.

It goes, even if a stage and the mass storage device of said receiving station have few said two or more programs.

A near video on demand is provided as it is **having had the stage of memorizing whether it being \*\*, and few.**

A method is provided. This method should be based on the predetermined standard that the user was selected.

It is determined which **of two or more of said programs** should be memorized for said bulk store means.

In a suitable case, it is **a stage, the stage which chooses the data reproduced from a control station, and** said carrier.

Since bidirection service is provided for a user by \*\*\*\*, it is to the return link of a narrow-band.

Therefore, it is a pan about the stage of establishing communication between said control station and a program data source.

It is alike and contains.

With reference to an accompanying drawing only as an example, it explains still in detail about this invention.

Drawing 1 is a block diagram of the NVOD system by this invention.

One working example of the personal agent who uses drawing 2 with a system

It is shown.

In drawing 1, the home 1 passes the two-way-types-oriented ISDN2B+D link 2, and it is \*\*.

It communicates with the local central office 3 connected to the \*\*\*\*\* office 4. Remote central O Vis leads the narrow-band link 5 which conveys a multimedia signal, and is multi-MEDI.

It is connected to ASA screw ploy BAIDA 6.

#### CLAIMS

1. Multimedia server means to provide program data source,

The satellite communication system which broadcasts said program data to two or more users,

Two or more programs are received with the gestalt of the signal coded from said satellite system.

It is connected to an antenna means, the decoder which decrypts said signal, and said decoder,

The bulk store means for **of two or more of said programs** memorizing some at least

It has at least one receiving station which \*\*\*\*,

Said each receiving station is based on the predetermined standard that the user was selected, and it is said plurality.

A program which determines any of a \*\* program are memorized for said bulk store means

It describes above via said satellite from the processor means carried out and said mass storage device.

The control station for choosing the data reproduced from a multimedia server means, and the above

Said control station is connected to a multimedia server means, and they are both sides to a user in said receiving station.

The return link of the narrow-band which provides tropism service

\*\*\*\*(ing) Sis who provides a near video on demand at least

Tem.

2. The links of said narrow-band are said multimedia server means and said at least 1.

A system given in the 1st paragraph of Claim that is a ground link between the receiving stations of \*\*.

3. System given in the 2nd paragraph of Claim in which said ground link is ISDN link

4. \*\* in which said decoder is gestalt of TV set top multi media decoder

A system given in the 1st paragraph of the range or the 2nd paragraph of \*\*.

5. Claim in which said at least one receiving unit contains DBS receiver

The system of any one description of the 1st paragraph of the range thru/or the 4th paragraph.

6. PU said programmed processor means should be remembered to be by bulk memory

There is no 1st paragraph of Claim including the personal agent who determines log rum.

It carries out and is a system of any one description of the 5th paragraph.

7. Said personal agent determines which program should be memorized.

It is an account to the 6th paragraph of Claim programmed by a user's liking used for a sake.

The system of \*\*.

8. Said personal agent is based on the past experience, and people are which types.

Study MO from which an agent enables it to learn whether it gets interested in a program

A system given in either **which has - DO** the 1st paragraph of Claim thru/or the 7th paragraph.

9. It is said plog in order to broadcast with the gestalt compressed by said at least one receiving station.

Any 1 of the 1st paragraph of Claim thru/or the 8th paragraphs which has a means to compress rum data

A system given in a paragraph.

10. Said receiving station has the bus connected to the network terminal adapter.

Said bus is connected to a computer and said programmed processor means.

The system of any one description of the 1st paragraph of Claim thru/or the 9th paragraph carried out.

11. Said computer passes said satellite communication system, and said bus is bidirectional Ma.

It is connected to said DEKOTA so that RUCHIMEDIA data can be received.

A system given in the 10th paragraph of the range of \*\*\*\*\*.

12. The stage of providing a program data source,

Stage which broadcasts said program data to two or more users via a satellite communication

system

Story,

Stage which receives said data in a receiving station with the gestalt of the signal coded from the satellite system

Story,

The stage which decrypts said signal,

Said two or more programs are some at least to the mass storage device of said receiving station.

The stage to memorize

It \*\*\*\* and is a pan,

It is based on the predetermined standard that the user was selected, and they are any of two or more programs.

The stage of determining whether it should memorize for the aforementioned bulk store means,

The stage which chooses the data reproduced from a control station,

It is a narrow-band that interactive services should be provided for a user in said receiving station in a suitable case.

It is communication between said control station and said program data source by a \*\* return link.

The stage to establish

A method of providing a near video on demand at least of \*\*\*\*(ing).

13. The return link of said narrow-band is said plog from at least one receiving station.

A method given in the 12th paragraph of Claim that is a ground link to rum data resources.

14. Transmit to said receiving station with the gestalt which had said program data for broadcast compressed.

A method given in the 12th paragraph of Claim or the 13th paragraph which has a stage compressed into a sake.

15. Stage which transmits bidirectional multimedia data with said satellite communication system

It is the method of any one description among the 12th paragraph of Claim thru/or the 14th paragraph which has a story.

16. Receive two or more programs with the gestalt of the signal coded from the satellite system.

Antenna means,

The decoder which decrypts said signal,

It is connected to said decoder, and some are memorized even if there are few said two or more programs.

It has a bulk store means for carrying out,

It is based on the predetermined standard that the user was selected, and is which of two or more programs.

The programmed processor means which whether it should memorize for said bulk store means determines

\*\*\*\*

Said satellite is passed and it is \*\* from said mass storage device or said multimedia server.

The control station which chooses the data which carries out raw,

Since bidirection service is provided for a user in said receiving station, it is said multi-MEDI.

The narrow-band return link which connects said control station to an ASABA means

\*\*\*\*(ing) reception which receives a near video on demand at least

Office.

17. The pro who should memorize said programmed processor means to a bulk memory

It is a description to the 16th paragraph of Claim that has a personal agent who determines a gram.

Receiving station.

18. Said personal agent is based on the past experience, and a user is which kind.

Claim which have the learning mode which can study whether it gets interested in a \*\* program

A receiving station given in the 17th paragraph.